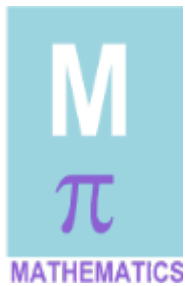


STEM/STEAM & The Movies Math



MATH	FILM(S) REFERENCED	CONCEPTS
Movies Through A Mathematical Lens What type of math is involved in Pixar animation?	Superman II Despicable Me Inside/Out	Acceleration Estimation Many (see article)
Math in Special Effects	Music video	Algebra, Distance, Light Intensity, Exposure (photography)
Film Aspect Ratio Related video	Captain America: Winter Solider; Citizen Kane; Ben Hur; A Serious Man; Oz: The Great And The Powerful; The Grand Budapest Hotel; Oliver; The Dark Knight	Aspect ratio
Jumping Out of Windows (stunts)		measuring, multiplication, division, and remainders
Math in the Film Industry		trigonometry, algebra, integral calculus, subdivision surfaces, division, geometry, and harmonic coordinates
How One Visual Effects Director Uses Math	Harry Potter, Sweeny Todd, Prince of Persia, GI Joe	fluid modeling, gravity, viscosity, voxels, density, 3D geometry
A Math Breakdown of Cinematography of "There Will Be Blood" Related article	There Will Be Blood	Geometry
Math Goes Movies	Jurrasic Park, Lord of the Rings	polygons, triangles, ray tracing, vectors, caustics, precomputed radiance transfer, radiosity

Film Lighting & Math		multiplication, angles, measurements, division, skip counting
Geometry of Lenses (Lesson plan)		geometry, areas, ratios, and square roots
Math Algorithm Claims to Predict Film's Success		algorithm
Pixar combines math to make its movies related video	The Incredibles Ratatouille Finding Nemo	algebra, geometry , calculus
Pixar Sr. Scientist Explains Math of Movies related video	Cars 2, Brave, Geri's Game	arithmetic, algebra, geometry, polygons, calculus, combinatronics, light, fluid, gases, compression algorithm, parabolas
Ryan Kavanugh Uses Math To Make Movies	Batman, Zombieland, Charlie Wilson's War, Paul Blart: Mall Cop, Season of the Witch, The Perfect Getaway, Matrix, Waterworld, Jesse James, The Fighter, Evan Almighty, Bruce Almighty, Land of the Lost, Brothers, Somewhere in Time, Titanic	variables
Box Office Math (lesson plan)		Calculations, measures, box plots (both modified and non-modified), histograms, and stem-and-leaf plots.
Independent Filmmakers Talk Math		Calculations
The Croods & Math		Coding, effects tools, process control, fluid dynamics, Cloud computing
What is the average budget for a Hollywood movie?	The Brothers McMullen, Avatar, Pirates of the Caribbean	